

Application No. 10/019,004

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In the Claims:

1. - 20. (Canceled)

21. (Re-presented, formerly dependent claim 8) An arabinogalactan protein composition, having a weight average molecular weight of at least 100 kiloDaltons, isolated from a purified arabinogalactan composition isolated from *Astragalus membranaceus* plants more than one?

22. (New) The arabinogalactan protein composition of claim 21 where the purified arabinogalactan composition is isolated from the roots of *Astragalus membranaceus* plants.

23. (New) The arabinogalactan protein composition of claim 21 where the *Astragalus membranaceus* plants are plants of *A. membranaceus* Bge. var. *mongolicus* (Bge.) Hsiao or *A. membranaceus* (Fisch.) Bge.

24. (New) The arabinogalactan protein composition of claim 21 that is isolated from *Astragalus membranaceus* plants grown in Inner Mongolia or Shanxi province, Peoples' Republic of China. — So what?

25. (New) The arabinogalactan protein composition of claim 21 where the *Astragalus membranaceus* plants are two-year old *Astragalus membranaceus* plants.

26. (New) The arabinogalactan protein composition of claim 21 having an arabinose/galactose ratio of at least 2.

27. (New) The arabinogalactan protein composition of claim 21 having an endotoxin content of not more than 1.0 EU/mg.

28. (New) An aqueous intravenously injectable arabinogalactan formulation comprising:

- (a) a therapeutically effective amount of the arabinogalactan protein composition of claim 21; and
- (b) an aqueous intravenously injectable excipient. (Water)

29. (New) A method of treating a disease state in a mammal capable of treatment by administration of the arabinogalactan protein composition of claim 21, comprising intravenously administering to the mammal an effective amount of the arabinogalactan protein composition of claim 21 or the aqueous intravenously injectable arabinogalactan formulation of claim 28.

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30. (New) The method of claim 29 where the method is a method of stimulating hematopoiesis, inducing the proliferation or maturation of megakaryocytes, stimulating the production of IL-1 β , IL-6, TNF- α , IFN- γ , GM-CSF, or G-CSF, stimulating the production or action of neutrophils, treating neutropenia, anemia, or thrombocytopenia, accelerating recovery from exposure to cytotoxic agents or radiation, treating cachexia, emesis, or drug withdrawal symptoms, or modifying biological responses or protecting hepatic cells in hepatitis B.
31. (New) The method of claim 30 where the method is a method of stimulating hematopoiesis, inducing the proliferation or maturation of megakaryocytes, stimulating the production of IL-1 β , IL-6, TNF- α , IFN- γ , GM-CSF, or G-CSF, stimulating the production or action of neutrophils, or treating neutropenia, anemia, or thrombocytopenia.
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32. (New) The method of claim 29 where the mammal is a human.
33. (New) The method of claim 31 where the mammal is suffering from bone marrow suppression.
34. (New) The method of claim 33 where the bone marrow suppression is the result of cancer chemotherapy or radiation therapy.
35. (New) The method of claim 29 further comprising the administration of at least one other therapeutic agent.
36. (New) The method of claim 35 where the at least one other therapeutic agent is a therapeutic agent capable of stimulating hematopoiesis.
37. (New) The method of claim 36 where the at least one other therapeutic agent is selected from erythropoietin, thrombopoietin, granulocyte colony stimulating factor, or IL-3.

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38. (New) A method of producing the arabinogalactan protein composition of claim 21, comprising:

- (a) extracting from *Astragalus membranaceous* an aqueous extract containing an arabinogalactan composition;
- (b) adding to the aqueous extract from step (a) sufficient lower alkanol to precipitate the arabinogalactan composition, and isolating the precipitated arabinogalactan composition;
- (c) dissolving the precipitated arabinogalactan composition from step (b) in water to form an arabinogalactan composition-containing solution;
- (d) treating the arabinogalactan composition-containing solution from step (c) to remove materials having a molecular weight less than the molecular weight of the arabinogalactan composition;
- (e) purifying the arabinogalactan composition-containing solution from step (d) by ion exchange chromatography;
- (f) subjecting the purified solution to ultrafiltration through an ultrafilter having a 100 kiloDalton molecular weight cutoff; and
- (g) isolating the arabinogalactan protein composition from the retentate from step (f).

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